

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Digital Audio Broadcasting Systems)	MM Docket No.99-325
And Their Impact On The Terrestrial)	
Radio Broadcast Service)	

THESE REPLY COMMENTS ARE IN RESPONSE TO PUBLIC NOTICE DA 05-1661
CONCERNING THE NRSC "IN-BAND/ON-CHANNEL DIGITAL BROADCASTING
STANDARD, NRSC 5"

TO: The Commission

COMMENTS OF CHARLES T. MORGAN, MILFORD K. SMITH, JR. AND ANDY LAIRD

These reply comments are filed in response to Public Notice DA 05-1661 issued June 16, 2005 concerning the NRSC IN-BAND/ON-CHANNEL STANDARD. The joint commenters are Charles T. Morgan Milford K. Smith, Jr. and Andy Laird.

The NRSC In-Band/On-Channel (IBOC) Digital Broadcasting Standard, NRSC-5, was submitted to the Commission on May 18, 2005 for consideration as it develops technical rules for IBOC operation of both AM and FM stations in the United States. The undersigned all played a major role in developing this Standard. Charles T. Morgan is the chairman of the NRSC, Milford K. Smith is the co-chairman of the NRSC's DAB Subcommittee, which developed this Standard, and Andy Laird was chair of the Test Procedures Working Group that developed the comprehensive plans and procedures for testing IBOC systems. All three individuals have been very active in the NRSC's IBOC evaluation and standard-setting process since its inception over a decade ago.

The comments of Jonathan Hardis, Impulse Radio, and the joint comments of Microsoft, Broadcast Signal Labs and Impulse Radio to this Public Notice have asked the FCC to reject the NRSC-5 Standard and remand it back to the NRSC because, in their view, the Standard is not

complete. In general, they claim that a complete IBOC standard must include three additional items: (1) the HDC audio codec, (2) a codec identifier and (3) details on the Advanced Data Services portion of the Standard.

These reply comments will address these claims raised by these four commenters concerning the completeness and appropriateness of this Standard as well as the statements made by Impulse Radio concerning the processes of the NRSC.

THE HDC CODEC

For reasons clearly noted within the Standard, it does not contain audio coding and compression specifications.

Early in the development of this Standard, iBiquity informed the NRSC that, due to non-disclosure agreements with partners that participated in the development of the HDC codec, it would not be possible to provide the NRSC with the specific details necessary for inclusion in the Standard. Consequently, at the February 17, 2004 meeting of its IBOC Standards Development Working Group (ISDWG), the NRSC faced squarely the two possible alternatives resulting from this situation—either develop a standard without the inclusion of a codec or develop *no* standard at all. Of the 23 companies and organizations represented at this meeting, there was a consensus to move forward with the development of a standard that would *not* include a codec. The Minutes of that meeting show that Microsoft, Broadcast Signal Labs, and Impulse Radio were all part of this consensus. Jonathan Hardis, participating in the work of the ISDWG as the representative of the National Institute of Standards and Technology (NIST), stated that it was his desire to not express an opinion on this point.

When the Standard neared completion, the issue of inclusion of the HDC codec was again raised within the ISDWG, and again it was determined by this Working Group that inclusion of the audio codec was desirable but not necessary for development of a complete transmission standard.

The NRSC has specific procedures for soliciting and reviewing comments prior to a vote on a standard. During the comment cycle preceding adoption of NRSC-5, the request for inclusion of the HDC codec was again raised and addressed in accordance with these provisions and again rejected by consensus of the group. If the Commission is to remand this Standard back to the NRSC for inclusion of the HDC codec, it is the firm belief of the undersigned that there

will be *no* NRSC Standard for IBOC.

A CODEC IDENTIFIER.

The concept of a “codec identifier” designed to allow IBOC receivers to recognize the specific audio codec being used for a specific transmission was first brought to the attention of the NRSC in March, 2005. The present Standard does not specify a particular audio codec and is meant to be “codec agnostic,” but it does not include a specific mechanism for distinguishing between different codecs, and there is general agreement within the ISDWG that a method for identifying codecs would be desirable. Unfortunately, this concept was brought forth only a few weeks before the completed draft Standard was to be sent out for comment and as such there was no time for it to be properly researched and incorporated into the Standard. The potential of including of codec identifier is presently being studied within the ISDWG and will be addressed by the NRSC in the near future.

At present, all known NRSC-5 compatible IBOC implementations utilize the iBiquity HDC codec and the undersigned believe that remanding this standard back to the NRSC for the inclusion of a codec identifier is not warranted.

ADVANCED DATA SERVICES PORTION OF THE STANDARD

Section 5.3 of the Standard, adopted on April 16, 2005, states that “Advanced Data Services will be incorporated into the Standard and more fully detailed in additional reference documents at a later date.” A draft version of the Standard (denoted “NRSC-5-A”) which includes these promised modifications was completed and distributed to the DAB Subcommittee for comment on August 8, 2005. At the conclusion of the comment resolution process, the finalized version will be presented to the Subcommittee for final adoption. There appears to be no dissention within the working group concerning this amendment to the Standard and its adoption is anticipated within 60 days. Consequently the request for remanding the Standard back to the NRSC for inclusion of this amendment seems to at this point be moot.

IMPULSE RADIO’S CLAIM THAT THE NRSC PROCESS WAS ANTI-COMPETITIVE AND NOT FREE OF DOMINANCE

The Comments of Impulses Radio concerning the processes of the NRSC in the

development of NRSC-5, in the view of these three very active participants in all phases of the development of this Standard, are incorrect and appear to be misplaced.

During the standards development process, Impulse Radio became involved with the ISDWG and proposed the possible inclusion of its “MAT” data transmission protocol as a means for supporting Advanced Data Services within the NRSC-5 Standard. The claims of anti-competitiveness and dominance that are now brought to the Commission are the same claims that were made within the NRSC; these claims were addressed in accordance with the applicable NRSC procedures during the pre-vote comment resolution process. At the April 16, 2005 meeting of the DAB Subcommittee, during which the Subcommittee voted to adopt NRSC-5, Impulse Radio chose to abstain from voting.

On April 22, 2005, after NRSC-5 was adopted by the NRSC, Impulse Radio filed an appeal of the Standard, again stating the same claims of non-competitiveness and dominance they had made prior to the Standard’s adoption. Under NRSC procedures a special Board of Appeals is to be selected to resolve such issues; prior to this Board being convened, on May 18, 2005, Impulse Radio withdrew its appeal.

More recently, as the ISDWG was working to develop the Advanced Data Services portion of the Standard, after a series of meetings with iBiquity Digital Corporation, Impulse Radio on July 7, 2005, withdrew its MAT proposal from further consideration indicating that it believed their technology could be made compatible with iBiquity’s “Advanced Application Service” technology which the ISDWG has now incorporated into the draft NRSC-5-A Standard.

Now, on July 18, 2005, Impulse Radio makes these same claims to the FCC which have time and again been rejected by the NRSC. We are at a loss in trying to determine why these claims are now brought to the Commission or what it is that Impulse Radio wants the Commission to do about them. We suggest that their request simply be ignored.

CONCLUSION

Each of the commenters requesting that the FCC remand this Standard back to the NRSC for modification refers to NRSC-5 as a “proposed standard.” As these commenters well know, it is not a proposed standard, it is a “Real Standard” adopted and published by the NRSC, and submitted to the FCC by the NRSC’s co-sponsors (NAB and CEA) for consideration.

The Commission, of course, has the absolute right to develop its rules and regulations

governing the broadcast of digital information over AM and FM radio stations in the United States. The Commission asked for and received an industry standard that was developed by a large and diverse segment of industry leaders after a great deal of time and effort. The Commission may if it so chooses embrace this Standard in its entirety, incorporate portions of this Standard into its rules, or simply reject this Standard completely. Remanding this Standard back to the NRSC will serve no useful purpose and would only cause delay in bringing terrestrial digital radio to the United States.

As stated above, the Advanced Data Services portion of this standard is expected to be adopted and made part of the Standard in less than 60 days. The need for a codec identifier, first proposed to the NRSC five months ago, is presently being addressed by the NRSC.

The inclusion of the HDC codec is another matter. The HDC codec is the intellectual property of iBiquity and they have continuously stated that they cannot make the necessary disclosure to allow this codec to be included in the Standard. It is the view of the undersigned, and we suspect the view of the vast majority of the participants in the NRSC process, that a standard that includes the HDC codec is not possible.

It is our hope that the Commission will embrace this Standard and utilize it in a positive manner as it develops rules to govern the future of AM and FM radio broadcasting in the United States, IBOC.

Respectfully Submitted,

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